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Project Turnover Documentation Package for the OU 7-10 Glovebox Excavator Method Project

August 2003

Idaho National Engineering and Environmental Laboratory
Bechtel BWXT Idaho, LLC

INEEL/EXT-03-00622
Revision 0

Project Turnover Documentation Package for the OU 7-10 Glovebox Excavator Method Project

August 2003

Idaho National Engineering and Environmental Laboratory
Idaho Completion Project
Idaho Falls, Idaho 83415

Prepared for the
U.S. Department of Energy
Assistant Secretary of Environmental Management
Under DOE Idaho Operations Office
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ABSTRACT

The purpose of this report is to compile documents that hrnish objective evidence of satisfactory completion of construction and testing for the Operable Unit 7-10 Glovebox Excavator Method Project. This documentation was initially compiled before partial turnover for system operability and integrated testing as a precursor to this report. It is through this report that information and data, including that from testing, become official project records. This documentation was furnished to the Project Turnover Review Committee as evidence that construction and construction component testing was completed in support of partial and final turnover. This report also fulfills the requirements of PLN-1159 for the project turnover review report.

CONTENTS

TABLES

ACRONYMS

CAS	criticality alarm system
CC	construction component
D&D&D	deactivation, decontamination, and decommissioning
ES&H	Environmental Safety & Health
FMM	fissile material monitor
FFS	Facility Floor Structure
INEEL	Idaho National Engineering and Environmental Laboratory
LSC	low safety consequence
OU	operable unit
PGS	Packaging Glovebox System
PDSA	preliminary documented safety analysis
PDSR	project deficiency status report
PTRC	Project Turnover Review Committee
QA	quality assurance
RCS	Retrieval Confinement Structure
RWMC	Radioactive Waste Management Complex
SDC	system design criteria
SO	system operability
SQR	Supplier Quality Release
SS	safety significant
SSC	structures, systems, and components
TFR	technical and functional requirements
TRU	transuranic
WES	Weather Enclosure Structure

Project Turnover Documentation Package for the OU 7-10 Glovebox Excavator Method Project

1. BACKGROUND

Between 1967 and 1969, the Subsurface Disposal Area was used for disposal of radioactively contaminated waste. The Subsurface Disposal Area is located within the Radioactive Waste Management Complex (RWMC), which is a facility located in the southeast portion of the Idaho National Engineering and Environmental Laboratory (INEEL). Waste Area Group (WAG) 7 is the designation for the Radioactive Waste Management Complex recognized under the Federal Facilities Agreement and Consent Order (DOE-ID 1991) and the Comprehensive Environmental Response, Compensation and Liability Act (42 USC § 9601 et seq.). Within WAG 7 are thirteen operable units (OUs), of which OU 7-10 comprises Pit 9.

1.1 Objectives of the Project

The *Record of Decision: Declaration of Pit 9 at the Radioactive Waste Management Complex Subsurface Disposal Area at the Idaho National Engineering Laboratory, Idaho Falls, Idaho* (DOE-ID 1993) specifies retrieval of transuranic (TRU) waste from OU 7-10. On October 1, 2001, the INEEL published the *Waste Area Group 7 Analysis of OU 7-10 Stage II Modifications* (INEEL 2001), which identified a feasible approach for retrieving waste from OU 7-10. The project was established to accomplish the objectives presented in that report. The overall objectives for the project are as follows:

1. Demonstrate waste zone material retrieval
2. Provide information on contaminants present in the underburden
3. Characterize waste zone material for safe and compliant storage
4. Package and store waste onsite, pending final disposition.

The project facilities and processes are being designed to safely conduct a waste-zone material retrieval demonstration in a selected area of OU 7-10. The volume retrieved is expected to be between 75 and 125 yd^3. The project processes consist of excavation and retrieval; sampling, packaging, and provisional storage; shutdown; deactivation, decontamination, and decommissioning (D&D&D); and environmental monitoring. Project facilities include a Weather Enclosure Structure (WES), Retrieval Confinement Structure (RCS), Packaging Glovebox System (PGS), Facility Floor Structure (FFS), criticality alarm system (CAS), excavator, ventilation system, and other supporting equipment.

1.2 Facility Turnover

INEEL procedure MCP-2869, "Project Turnover and Acceptance," provides the responsibilities, instructions, records management requirements, and definitions for transferring projects from construction to the facility. PLN-1159, "Facility Turnover and Acceptance Plan for the OU 7-10 Glovebox Excavator Method Project," provides a project-specific plan for accomplishing facility turnover. More specifically, this plan provides the organization and responsibilities, turnover schedule and sequence, and specific requirements and steps involved in facility turnover.

Both MCP-2869 and PLN-1159 define a two-step turnover process, with partial turnover occurring after construction completion and before system operability **(SO)** and integrated testing, and final turnover occurring after testing.

2. PURPOSES

The purpose of this report is to compile those documents that hrnish objective evidence of satisfactory completion of construction and testing. This documentation was initially compiled prior to partial turnover for **SO** and integrated testing as a precursor to this report. It is through this report that information and data, including that from testing, become official project records. This documentation was furnished to the Project Turnover Review Committee (PTRC) as objective evidence of completion of construction and construction component (CC) testing, in support of partial and final turnover.

This report also fulfills the requirements of PLN-1159 for the project turnover review report.

3. GENERAL DOCUMENTS

The documents addressed in this section are general in nature (i.e., not system-specific), hrnish objective evidence of satisfactory completion of construction and testing, and are provided as appendices to this report, or referenced herein:

3.1 PLN-1159 Checklists

Appendix A provides the completed Appendix B to PLN-1159 (Partial Project Transfer) – This document records the detailed completion of the PLN-1159 checklist for preparation for partial project turnover review. This completion checklist was finalized by the PTRC.

Appendix B provides the completed Appendix B to PLN-1159 (Final Project Transfer) – This document records the detailed completion of the PLN-1159 checklist for preparation for final project turnover review. This completion checklist was finalized by the PTRC.

Appendix C provides the completed Appendix C to PLN-1159 (Partial Project Transfer) – This document records the detailed completion of the PLN-1159 checklist for partial project turnover review. This completion checklist was finalized by the PTRC.

Appendix D provides the completed Appendix C to PLN-1159 (Final Project Transfer) – This document records the detailed completion of the PLN-1159 checklist for final project turnover review. This completion checklist was finalized by the PTRC.

3.2 Technical and Functional Requirements and System Design Criteria

Appendix E provides a list of the finalized and complete project technical and functional requirements (TFRs) and system design criteria (SDC). These documents are available in the project records.

3.3 Verification of Requirements

Verification of project requirements has been performed to ensure that requirements have been met. Design requirement verification has been accomplished by review or analysis using the design output documents (i.e., drawings, specifications, and engineering design files), in accordance with the requirements of MCP-92 17, "Design Verification." This verification ensures that the structures, systems, and components (SSCs) are adequately designed, and that the designs meet requirements.

Verification of compliance with testable requirements is performed using a variety of test types, including, but not limited to vendor testing, CC testing, mockup testing, **SO** testing, and integrated testing. These tests, as well as other verification methods, provide assurance that the project SSCs will function as required and meet expected performance levels.

The "Testable Requirements Matrix for the OU 7-10 Glovebox Excavator Method' (LST-255), lists project requirements from the project TFRs and SDCs. This matrix identifies those requirements that are testable, this is, requirements that could be verified by performing a test. If a requirement is noted as "testable" then, the test type(s) where the requirement would be verified is noted (see below). Also contained in the matrix is the identification of the system(s) affected by the requirement, references to the

acceptance criteria / other associated requirements and where compliance (e.g., test reports) will be documented.

Test types and data applicable to the project turnover process are as follows:

- Vendor tests
- CC tests
- SO tests
- Integrated tests.

3.4 Project As-Built Drawings

Project drawings were selected for as-builting based on the following criteria:

- Drawings designated as Master Facility Drawings
- Drawings designated as Essential Drawings
- Certain drawings supporting future D&D&D activities.

During the construction and testing, project LST-254, "OU 7-10 Glovebox Excavator Method Project As-Built Drawings" provided the list of those drawings to be as-built, i.e., revised to reflect physical and functional conditions as constructed and tested. This list, coupled with actual drawing revisions as documented in the system-specific sections of this report, provides the objective evidence of satisfactory as-builting of project drawings.

In concert with operational requirements in preparation for facility turnover, RWMC Operations has developed the essential and master facility drawing lists, which are available in EDMS. These lists supercede LST-254, which will be deleted from EDMS, having served and interim purpose during construction and testing.

3.5 Walkdowns

Each of the major systems of the project was subjected to walkdown as a part of the review process in advance of partial turnover. Appendix F provides the project post-construction system walkdown participation matrix. This matrix consists of test areas (systems), safety designation of the system, individuals participating in the walkdowns from safety and industrial hygiene, responsible design engineers, responsible test engineers, assigned operations engineering system engineers, operations representative, and technical subject matter experts. LST-254 serves a purpose on the project prior to developing and issuing the essential drawing and master facility lists by RWMC Operation Engineering. In case of conflict, the RWMC essential drawing and master facility lists provide the most current information.

Appendix G provides the statused schedule for walkdown activities.

The walkdown process involved a preliminary evaluation by field engineering staff, including development of a punchlist of system deficiencies, before the formal walkdown of the system. The individuals listed above, as led by construction field engineering, conducted the formal walkdowns. The

walkdowns began with a thorough review of system documentation before detailed field inspection of the system's installation and components. Documentation to support the review for each system consisted of a package of system drawings, TFRs and SDCs, specifications, and when appropriate, key vendor data, such as test results, etc.

The deficiencies identified during the formal walkdown were added to the project deficiency status reports (PDSRs) or punchlists. Responsibility for the resolution of any identified deficiencies were assigned to individuals and/or companies with deadlines established for resolving the deficiency. The process was completed only after the proposed solution for all deficiencies are accepted and verified by field engineering and the individual(s) who identified the deficiencies, where necessary.

3.6 Issue Communication and Resolution Environment System Items (ICAREs)

A report of open Issue Communication and Resolution Environment (ICARE) system items applicable to the Glovebox Excavator Method project is issued on a weekly basis. (ICARE items include nonconformance reports, deficiency reports, and initial problem reports.) Status and priorities are then reviewed in the project plan of the week meeting. This list was reviewed before partial and final turnover to determine whether any open items would impact turnover. Because the list changes on a regular basis, it is not included in this documentation. This paragraph describes the practice used on the project to consider this source of issues in the turnover process.

3.7 Calibration Records

Design engineering developed a list of instruments within the project scope. This list also included fields for system, need for calibration, planned and actual initial calibration date, calibration record number, next calibration due date, responsible system engineer, and engineering reference drawing. The ownership of this list was then transferred from design engineering to operations engineering. This list was reviewed as part of the turnover process. The current version of the list is available from the operations engineering supervisor.

3.8 Integrated Testing

An integrated test was performed to verify that selected portions of the facility and systems would function as an integrated unit. The test was conducted in accordance with TPR-1826, which is available in the project records; see *Integrated Testing of the OU 7-10 Glovebox Excavator Method Project* (Burt 2003a).

The following systems were operational and functioning during the integrated test:

- Heating and ventilation systems
- Life safety systems
- Fire protection systems
- Electrical systems
- Instrumentation and control systems

- Plant air system
- Breathing air system
- Closed-circuittelevision system
- Excavator system
- Fissile material monitoring system.

In addition to the integrated testing, three system operability tests (fissile material monitor, excavator, and drum assay trailer) were also completed as part of preoperational testing. Reports documenting these tests are as follows: *System Operability Test of the Fissile Material Monitor for the OU 7-10 Glovebox Excavator Method Project* (Owens 2003); *System Operability Test of the Gamma Spectroscopy System Startup for the OU 7-10 Glovebox Excavator Method Project* (Owens and Roesener 2003); and *OU 7-10 Glovebox Excavator Method Project Excavator Operational Testing* (Burt 2003b).

3.9 Environmental Safety & Health

As documented in Attachment A to completed Appendix B to PLN-1159 (Partial Project Transfer), all project Environmental Safety & Health (ES&H) documents were reviewed for applicability to the turnover process. Two documents were identified as relevant to the turnover process: the Environmental Checklist and the Storm Water Pollution Prevention Plan. These documents were included in the package reviewed by the Project Turnover Review Committee, and are available in the project records.

3.10 Construction Testing

A comprehensive plan was developed for performing construction testing. This testing consisted of CC testing as well as full system functionality testing for those systems for which such testing was the responsibility of the construction subcontractor. This comprehensive plan included the following:

- A testing responsibility matrix, consisting of test areas (systems), safety designation of the system, individuals responsible for test acceptance, individuals responsible for quality assurance, supporting design engineers, assigned operations engineering system engineers, and technical subject matter experts. This matrix is provided as Appendix H.
- A summary of responsibilities in the area of testing, provided as Appendix I.
- A project testing and walkdown schedule, provided as Appendix G.

3.11 Supplier Quality Inspections

The need for source inspection on the project was identified when placing contracts with suppliers. Source inspections were then performed periodically during the course of the contract, as applicable and where planned, and final source inspections were then performed, as applicable and where planned, prior to allowing shipment of the product from the supplier to the INEEL receiving facility. Source inspection prior to shipment results in preparation of a Supplier Quality Release (SQR) before shipment is allowed to proceed. Receiving inspection verifies that the SQR is complete and other receipt requirements are met prior to acceptance at the INEEL and results in issuing a “green tag.” Construction Inspection does not allow installation of any quality-significant (QL-1, QL-2, or QL-3) material without a “green tag.”

Construction Inspection personnel verified the quality status (green acceptance) of all quality-significant material before installation on the project. This included receiving inspection of quality-significant material supplied by subcontractors.

Source and Receiving Inspection records are available at CFA Receiving Inspection or have been transferred to Records Storage.

The following table provides the project purchase orders and source/receipt inspection requirements.

Table 1. Project purchase orders and source/receipt inspection requirements.

P.O. No.	Deliverable	Source/Receipt Inspection
8988	RCS	Yes (Safety Significant – QL-2)
10847	WES	Yes (Low Safety Consequence - QL-3
11536	PGS	Yes (Safety Significant – QL-2)
12916	CAS	Receipt only (Safety Significant – QL-2)
9499	FFS	Yes (Safety Significant – QL-2)
14014	Backhoe Mods-Safety	Yes (Safety Significant – QL-2)
12318	HEPA Filter System	Yes (Safety Significant – QL-2)
12281	Exhaust Stack	Yes (Safety Significant – QL-2)

3.12 Inspection and Project Transfer

In accordance with the requirements of MCP-2869 and PLN-1159, inspection and project transfer for partial and final turnover have been documented on Form 432.04. These completed forms are provided as Appendices J and K, respectively, for partial and final turnover.

4. SYSTEM-SPECIFIC DOCUMENTS

The documents addressed in this section are system-specific, hrnish objective evidence of satisfactory completion of construction and testing, and are provided in the appendices to this report:

4.1 Systems/Areas

Walkdown and management of punchlists took place using the following 23 system/area designators:

- Breathing Air
- Carbon Monoxide Detection
- Closed-Circuit Television
- Criticality Alarm System (CAS)
- Diesel Generator / Automatic Transfer Switch
- Drum Assay
- Drum Loadout Enclosures
- Dust Suppression
- Electrical & Power
- Emissions Monitoring
- Excavator
- Fire Alarm
- Fire Protection Piping
- Fissile Material Monitor (FMM)
- Misc. Items
- Monitoring & Controls
- Packaging Glovebox Systems (PGS)
- Painting
- Plant Air
- Site Development and Ventilation Systems

- Structural – Facility Floor Structure (FFS)
- Structural – Retrieval Confinement Structure (RCS)
- Structural – Weather Enclosure Structure (WES)

4.2 Project Deficiency Status Reports

Appendix L provides the project deficiency status reports (PDSRs) or punchlists for the 23 systems and areas listed above.

4.3 Project Drawing List

Appendix M provides the project drawing lists for each system and each list includes current revision number as of the date of issuance of this report.

4.4 Vendor Data Lists

Appendix N provides the project vendor data lists, organized by system.

4.5 Safety-Related Construction Inspections

Construction inspection and testing on safety significant **(SS)** and low safety consequence (LSC) SSCs were conducted in accordance with approved inspection planning documents. Quality assurance (QA) performed inspections and tests on **SS** and LSC SSCs in accordance with detailed planning in the "Construction Inspection Planning Package". Inspection is documented on the "Quality Inspection Report" and weld inspection is documented on the "Visual Inspection Report" for each SSC as applicable.

The Construction Inspection Planning Package, Quality Inspection Reports, Test Reports, and Visual Inspection Reports are available in the OU 7-10 Glovebox Excavator Method Project file at the Technical Support Building in Idaho Falls.

A summary of QA inspection plans and Construction Inspection Planning Packages are provided in Appendix **O.**

4.6 Consumer Grade Construction Inspections

The construction field engineering organization was responsible for performing inspection of consumer grade SSCs. Appendix P provides the completed field engineering inspection plans, organized by system. Information provided includes the material and/or equipment, the specification or code reference, instruction for the activity involved, and signoff at completion of the tasks.

4.7 System Operability and Integrated Testing

Records of completed **SO** and integrated testing are found in *System Operability Test of the Fissile Material Monitor for the OU 7-10 Glovebox Excavator Method Project* (Owens 2003); *System Operability Test of the Gamma Spectroscopy System Startup for the OU 7-10 Glovebox Excavator Method Project* (Owens and Roesener 2003); and *OU 7-10 Glovebox Excavator Method Project Excavator Operational Testing* (Burt 2003b).

5. REFERENCES

Burt, Blake T., 2003a, *Integrated Testing of the OU 7-10 Glovebox Excavator Method Project*, INEEL/INT-03-00754, Rev. 0, Idaho National Engineering and Environmental Laboratory

Burt, Blake T., 2003b, *OU 7-10 Glovebox Excavator Method Project Excavator Operational Testing*, INEEL/INT-03-00737, Rev. 0, Idaho National Engineering and Environmental Laboratory.

DOE-ID, 1991, *Federal Facility Agreement and Consent Order for the Idaho National Engineering Laboratory*, Administrative Record No. 1088-06-29-120, **U.S.** Department of Energy Idaho Operations Office; U.**S.** Environmental Protection Agency, Region 10; Idaho Department of Health and Welfare, December 4, 1991.

DOE-ID, 1993, *Record of Decision: Declaration of Pit 9 at the Radioactive Waste Management Complex Subsurface Disposal Area at the Idaho National Engineering Laboratory*, Administrative Record No. 5569, **U.S.** Department of Energy Idaho Operations Office; **U.S.** Environmental Protection Agency, Region 10; and Idaho Department of Health and Welfare, October 1993.

INEEL, 2001, *Waste Area Group 7 Analysis of OU 7-10 Stage II Modifications*, INEEL/EXT-01-01105, Idaho National Engineering and Environmental Laboratory, October 2001.

LST-254, 2003, "OU 7-10 Glovebox Excavator Method Project As-Built Drawings," Rev. 0, Idaho National Engineering and Environmental Laboratory.

LST-255, 2003, "Testable Requirements Matrix for the OU 7-10 Glovebox Excavator Method Project,'' Rev. 0, Idaho National Engineering and Environmental Laboratory.

MCP-2869, 2002, "Project Turnover and Acceptance," Rev. 10, Idaho National Engineering and Environmental Laboratory.

MCP-9217, 2003, "Design Verification," Rev. 3, Idaho National Engineering and Environmental Laboratory.

Owens, Mark T., 2003, *System Operability Test of the Fissile Material Monitor for the OU 7-10 Glovebox Excavator Method Project*, INEEL/INT-03-00752, Rev. *0*, Idaho National Engineering and Environmental Laboratory.

Owens, Mark T. and Scott Roesener, 2003, *System Operability Test of the Gamma Spectroscopy System Startup for the OU 7-10 Glovebox Excavator Method Project*, INEEL/INT-03-00753, Rev. *0*, Idaho National Engineering and Environmental Laboratory.

PLN-1159, 2003, "Facility Turnover and Acceptance Plan for the OU 7-10 Glovebox Excavator Method Project," Rev. 0, Idaho National Engineering and Environmental Laboratory.

TPR-1826, "OU 7-10 Integrated Testing," Rev. A, Idaho National Engineering and Environmental Laboratory.

Appendix A

Completed Appendix B to PLN-1159 (Partial Project Transfer)

Appendix A

Completed Appendix B to PLN-1159 (Partial Project Transfer)

Glovebox Excavator Method Project PLN-1159
Completed Appendix B
Preparation for Project Turnover Review Checklist
Partial Project Transfer for SO and Integrated Testing

Item	Description	Completed	
		Yes	No
1	The committee will provide a brief description of the scope of facilities and/or systems being reviewed for turnover (describe below): • *The scope of project facilities and systems consists of that listed in the post-construction system walkdown participation matrix (Attachment B).*[(b)]	☑	
2	The committee will briefly define "readiness for turnover" of the facilities and systems being transferred (describe below): • *Completion of construction* • *Completion of inspections by construction quality assurance for safety significant and low safety consequence systems, structures, and components), and completion of the documentation associated with these inspections* • *Completion of inspections by field engineering for consumer grade systems, structures, and components), and completion of the documentation associated with these inspections* • *Accomplishment of construction completion (CC) testing, and completion of the documentation associated with construction completion (CC) testing* • *Completion of system and facility walkdowns, and completion of the associated project deficiency status reports for systems, structures, and components* • *Resolution of walkdown deficiency items (except those agreed by the PTRC as acceptable exceptions for turnover)* • *As-builting of project drawings (per project as-built list, LST-254)* • *Finalization of vendor data* • *Completion, presentation to the PTRC, and acceptance by the PTRC, of a set of general and system binders, consisting of the following:* - *Project deficiency status reports (walkdown punchlist),* - *Documentation of satisfactory completion of CC testing,* - *Objective evidence of completion of construction QA inspections,* - *Objective evidence of completion of field engineering inspections,* - *Objective evidence from design engineering of completion of as-builting,*	☑	

Glovebox Excavator Method Project PLN-1159
Completed Appendix B
Preparation for Project Turnover Review Checklist
Partial Project Transfer for SO and Integrated Testing

Item	Description	Completed Yes	Completed No
	- *List of Essential and Master Facility Drawings for facilities/systems being transferred* - *Objective evidence of updated project TFRs and system design criteria* - *Objective evidence of System Operability (SO) and Integrated Testing plans and Procedures for facilities/systems being transferred* - *Safety, environmental, and security documents for facilities and systems being transferred. (See Attachment A)* - *Completed Form 432.04, "Inspection and Project Transfer."*		
3	The committee will establish a list of prerequisite conditions necessary to initiate project turnover review, including the following specific items: a) Construction activities that must be complete prior to review (attach separate list) – *See the post-construction system walkdown participation matrix (Attachment B)* b) Physical conditions necessary for facilities and/or systems being transferred – *Completion of construction and construction completion testing* c) Safety conditions necessary for facilities and/or systems being transferred (attach separate list) – *Satisfactory completion of construction of systems, structures, and components necessary to permit safe operation of the facility, as well as satisfactory resolution of walkdown punchlist items related to safety* d) Tests to be performed – *See list of tests to be performed (Attachment C)* e) Walk-downs and inspections to be performed – *See the post-construction system walkdown participation matrix (attached)*	☑	
4	The committee will prepare a list of completed Project documents required to be completed before project turnover, including, but not limited to, the following documents (attach separate list): a) TFRa and system design criteria documents for facilities and systems being transferred b) Safety, environmental, and security documents for facilities and systems being transferred	☑	

Glovebox Excavator Method Project PLN-1159
Completed Appendix B
Preparation for Project Turnover Review Checklist
Partial Project Transfer for SO and Integrated Testing

Item	Description	Completed	
		Yes	No
	c) Construction, facility, design, and performance specifications for facilities/systems being transferred d) Project Statement of Work for facilities/systems being transferred - - *The project statement of work is captured in the issued Project Execution Plan* e) Construction Work Packages for facilities/systems being transferred *The following Construction work packages were used:* • *02-035 for Site Development* • *02-036 for Facility Structures* • *02-037 for Mechanical/Electrical/Facility* f) Construction CC Test Reports for facilities/systems being transferred g) Drawings for facilities/systems being transferred h) Vendor Data for facilities/systems being transferred, in accordance with vendor data schedules for each specific item (i.e., design calculations, installation instructions, shop test results, O&M manuals, parts list, etc.) i) Other Project documents and QA records (attach list)		
5	The committee will prepare a list of Operating documents required for Project Turnover Review (attach list) a) Operations Organization Chart, Interfaces, and Assignment of Responsibilities, including status of Operations organization to assume custody of facilities/systems being transferred – *This information is provided in PLN-678, the Phase I Operations and Maintenance Plan for the project.* b) Surveillance and Maintenance Requirements for facilities/systems being transferred – *not required for partial turnover* c) Spare Parts List and Availability Status for facilities/systems being transferred – *not required for partial turnover* d) List of Essential and Master Facility Drawings for facilities/systems being transferred – *required* e) Operations and Maintenance Procedures for facilities/systems being transferred – *required* f) Operations and Maintenance Training Requirements for facilities/systems being transferred - - *required* System Operability and Integrated Test plans and Procedures for	☑	

Glovebox Excavator Method Project PLN-1159
Completed Appendix B
Preparation for Project Turnover Review Checklist
Partial Project Transfer for SO and Integrated Testing

Item	Description	Completed	
		Yes	No
	facilities/systems being transferred - - ***required***		
	h) Mockup Test Reports – ***not required***		
	i) Other Operating documents and QA records (attach list) – ***none required***		
6	The committee will obtain a list of required "Facility Acceptance" items from the Facility Operations organization (attach list) The Facility Operations Organization has included those items in this completed Appendix B, in other locations. – ***The NFM has confirmed that no other items are required in addition to those already provided in this completed Appendix B.***	☑	
7	The committee will prepare a list of Project and Operating documents required to be complete for project transfer (attach list) ***These documents have been identified in other locations in this completed Appendix B.***	☑	
8	The committee will arrange access to Project Records in accordance with INEEL records management requirements – ***This activity is taking place.***	☑	
9	The committee will obtain copies of all Project and Operating documents identified for Project Turnover Review and review these documents in preparation for Project Turnover Review – ***This activity is planned to take place through PTRC activities.***	☑	
10	The committee will prepare a detailed list of items that are planned to be reviewed, inspected, or verified during the physical walk-down of the facility/systems being transferred (attach list) – ***This is covered with walkdown matrix, and the system folders.***	☑	
11	Based on the above preparations, the committee Will prepare a detailed schedule of activities for Project Turnover Review, consistent With these preparations and the Project Baseline Schedule (attach schedule) – ***This schedule has been prepared.***	☑	
12	The committee will assign responsibilities for each of the committee members to accomplish the activities that Will be carried out during Project Turnover Review. ***Responsibilities are established in PLN-I 159.***	☑	
13	Construction management will initiate required forms for project turnover review, including the project deficiency status report (punch list) and Form 432.04, "Inspection and Project Transfer." ***This form will be completed as part of the partial transfer process.***	☑	
14	The committee will notify the project manager and facility manager of their readiness to proceed with project turnover review for the facilities and/or systems being transferred and request that this activity be planned and scheduled, as required – ***This is planned to take place.***	☑	

Item	Description	Completed	
		Yes	No

Glovebox Excavator Method Project PLN-1159
Completed Appendix B
Preparation for Project Turnover Review Checklist
Partial Project Transfer for SO and Integrated Testing

Attachment A – ES&H documents

The following documents were reviewed for inclusion in the documentation package for partial project transfer for SO and integrated testing. As shown the majority of these documents are considered necessary for final project turnover, but not for partial turnover for SO and integrated testing.

Project ES&H Document	Needed for Partial Turnover	Needed for Final Turnover
ARARs matrix		X
Air Emissions Evaluation		X
QAPjP for Air Emissions		X
Waste Management Plan		X
Environmental Checklist	X	
Storm Water Pollution Prevention Plan	X	
Criticality Safety Evaluation		X
Final Fire Hazards Analysis		X
Physical Security Plan		X
Contingency Security Plan		X
Emergency Preparedness Hazard Assessment		X
Addendum to RWMC Emergency Response Plan		X
RCRA Permit Modification		X
INEEL WAC Revision for GEM		X
TSR and *SAR* Addendum for GEM		X

Appendix B

Completed Appendix B to PLN-1159 (Final Project Transfer)

Appendix B

Completed Appendix B to PLN-1159 (Final Project Transfer)

Glovebox Excavator Method Project PLN-1159
Completed Appendix B
Preparation for Project Turnover Review Checklist
Final Project Transfer

Note This checklist is predicated on completion of partial turnover

Item	Description	Complete	
		Yes	No
1	The committee will provide a brief description of the scope of facilities and/or systems being reviewed for turnover (describe below) ▪ *The scope of project facilities and systems consists of that listed in the post-construction system walkdown participation matrix (Attachment B)* (b)	☑	
2	The committee will briefly define "readiness for turnover" of the facilities and systems being transferred (describe below): ▪ *Completion of construction punch list items* ▪ *Completion of system operability (SO) testing, including documentation of completed SO testing, as provided in INEEL/EXT-03-00622, Project Turnover Documentation Package* ▪ *Completion oj integrated testing, including documentation of completed integrated testing, as provided in INEEL/EXT-03-00622, Project Turnover Docurnentation Package* ▪ *Completion of project deficiency status report (PDSA) punch list items developed during SO and integrated testing (with the exception of those agreed by the PTRC as acceptable exception7for turnover)* ▪ *Changes to as-built drawings, if any, resulting from SO and integrated testing* ▪ *Changes to vendor datu, f any, resulting from SO and integrated testing* ▪ *PTRC member review and signature on INEEL/EXT-03-00622, Project Turnover Documentation Package* ▪ *Completed Form 432 04, "Inspection and Project Transfer"*	☑	
3	The committee will establish a list of prerequisite conditions necessary to initiate project turnover review, including the following specific items: a) Construction activities that must be complete prior to review (attach separate list) -- *Completion of convtruction punch list items* b) Physical conditions necessary for facilities and or systems being transferred (attach separate list) -- *Completion of SO and integrated testing; facility systems, structures, and components tested and operable in accordance with design criteria and vendor data*	☑	

Glovebox Excavator Method Project PLN-1159
Completed Appendix B
Preparation for Project Turnover Review Checklist
Final Project Transfer

Item	Description	Complete Yes	Complete No
	c j Safety conditions necessary for facilities and/or systems being transferred (attach separate list). -- *Satisfactory completion of SO and integrated testing of systems, structures, and components necessary to permit safe operation of the facility, as well as satisfactory resolution of punchlist items related to safety* *d)* Tests to be performed -- SO *tests for excavator, drum assay, and fissile material monitoring system; integrated test* e) Walk-downs and inspections to be performed – *Not Applicable; walkdowns were completed prior to partial turnover for testing.*		
4	The committee will prepare a list of completed Project documents required to be completed before project turnover, including, but not limited to, the following documents (attach separate list): a) TFR[a] and system design criteria documents for facilities and systems being transferred – *Not applicable; included in partial turnover planning* b) Safety, environmental, and security documents for facilities and systems being transferred – *See Attachment A, all of which have been completed* c) Construction, facility, design, and performance specifications for facilitiesisystems being transferred – *Not applicable; included in partial turnover planning* d) Project Statement of Work for facilities/systems being transferred – *The Project Statement of Work is captured in the Project Execution Plan* e) Construction Work Packages for facilitiesisystems being transferred – *Not applicable; included in partial turnover planning* f) Construction CC Test Reports for facilitiesisystems being transferred – *Not applicable; included in partial turnover planning* g) Drawings for facilities/systems being transferred – *Addressed at partial turnover, but must also be addressed at final turnover to the extent that essential and master facility drawings must be revised to reflect changes to the as-built facility condition which may occur as a result of testing.* h) As-built Essential and Master Facility Drawings for facilitiesisystems being transferred – *See discussion for g above.* i) Vendor Data for facilitiesisystems being transferred, in accordance with vendor data schedules for each specific item (i.e., design calculations, installation instructions, shop test results, O&M	☑	

Glovebox Excavator Method Project PLN-1159
Completed Appendix B
Preparation for Project Turnover Review Checklist
Final Project Transfer

Item	Description	Complete Yes	Complete No
	manuals, parts list, etc.) -- *Addressed at partial turnover, but must also be addressed at final turnover to the extent that vendor data must be revised to reflect changes which may occur as a result of testing.*		
	j) Other Project documents and QA records (attach list) – *QA records for SO and integrated testing must be complete*		
5	The committee will prepare a list of Operating documents required for Project Turnover Review (attach list)	☑	
	a) Operations Organization Chart, Interfaces, and Assignment of Responsibilities, including status of Operations organization to assume custody of facilitieslsystems being transferred – *This information is provided in PLN-678, the Phase I Operations and Maintenance Plan for the project.*		
	b) Surveillance and Maintenance Requirements for facilitieslsystems being transferred – *Must be completed and in-place for final turnover*		
	c) Spare Parts List and Availability Status for facilitiesisystemsbeing transferred – *Must be completed and in-place for final turnover*		
	d) List of Essential and Master Facility Drawings for facilitiesisystems being transferred – *Completed and in-place at partial turnover,*		
	e) Operations and Maintenance Procedures for facilitieslsystemsbeing transferred – *Must be completed and in-place for final turnover*		
	f) Operations and Maintenance Training Requirements for facilities/systems being transferred– *Must be completed and in-place for final turnover*		
	g) System Operability and Integrated Test Plan and Procedures for facilitieslsystems being transferred – *Not applicable, these plans and procedures were in place in order to perform SO and integrated testing.*		
	h) Mockup Test Reports – *Not applicable*		
	i) Other Operating documents and QA records (attach list) – *No other documents identified.*		
6	The committee will obtain a list of required "Facility Acceptance" items from the Facility Operations organization (attach list) – *The NFM has confirmed that no other items are required in addition to those already provided in this completed Appendix B.*	☑	

Glovebox Excavator Method Project PLN-1159
Completed Appendix B
Preparation for Project Turnover Review Checklist
Final Project Transfer

Item	Description	Complete	
		Yes	No
7	The committee will prepare a list of Project and Operating documents required to be complete for project transfer (attach list) *These documents have been identified in other locutions in this completed Appendix B.*	☑	
8	The committee will arrange access to Project Records in accordance with INEEL records management requirements – *Project Records are accessible to support facility Operations.*	☑	
9	The committee will obtain copies of all Project and Operating documents identified for Project Turnover Review and review these documents in preparation for Project Turnover Review – *This activity is planned to take place through PTRC activities.*	☑	
10	The committee will prepare a detailed list of items that are planned to be reviewed, inspected, or verified during the physical walk-down of the facility/systems being transferred (attach list) – *Not applicable, physical walk-downs took place prior to partial facility turnover for testing.*		
11	Based on the above preparations, the committee will prepare a detailed schedule of activities for Project Turnover Review, consistent with these preparations and the Project Baseline Schedule (attach schedule)) – *This schedule has been prepared.*	☑	
12	The committee will assign responsibilities for each of the committee members to accomplish the activities that will **be** carried out during Project Turnover Review (attach responsibilities) *Responsibilities are established in PLN-I 159.*	☑	
13	Construction management will initiate required forms for project turnover review, including the project deficiency status report (punch list) and Form 432.04, "Inspection and Project Transfer." *This form was completed as part of the partial transfer process; to the extent that changes or updates to the punchlists have been necessary during testing, those items must also be tracked on the punchlist.*	☑	
14	The committee will notify the project manager and facility manager of their readiness to proceed with project turnover review for the facilities and/or systems being transferred and request that this activity be planned and scheduled, as required – *This is planned to take place.*	☑	

a. INEEL, 2002b, *OU 7-10 Glovebox Excavator Method Technical and Functional Requirements,* **TFR-2527,** Rev. *3,* Idaho National Engineering and Environmental Laboratory, Bechtel BWXT Idaho, LLC, Idaho Falls, Idaho, October 2002.
CC = construction completion
ECF = engineering change form
QA = quality assurance
SO = system operability
TFR = technical and functional requirements

b. Italicized **text** = completed Appendix B for final turnover

Glovebox Excavator Method Project PLN-1159
Completed Appendix B
Preparation for Project Turnover Review Checklist
Final Project Transfer

Attachment A – ES&H documents

The following documents were reviewed for inclusion in the documentation packages for partial project transfer for SO and integrated testing.

Project ES&H Document	Needed for Partial Turnover	Needed for Final Turnover
ARARs matrix		x
Air Emissions Evaluation		x
QAPjP for Air Emissions		x
Waste Management Plan		x
Environmental Checklist	x	
Storm Water Pollution Prevention Plan	x	
Criticality Safety Evaluation		x
Final Fire Hazards Analysis		x
Physical Security Plan		x
Contingency Security Plan		x
Emergency Preparedness Hazard Assessment		x
Addendum to RWMC Emergency Response Plan		x
RCRA Permit Modification		x
INEEL WAC Revision for GEM		x
TSR and SAR Addendum for GEM		x

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Appendix C

Completed Appendix C to PLN-1159 (Partial Project Transfer)

Appendix C

Completed Appendix C to PLN-1159 (Partial Project Transfer)

Completed Appendix C

Project Turnover Review Checklist

The checklist provided below will be used to assist the Project Turnover Review Committee in documenting all activities performed during Project Turnover Review. Additional items may be added to the checklist, and changes made as necessary to support an efficient effort. This checklist contains specific items, as well as additional items added by the committee, to be completed during partial and/or final Project Turnover Review. Completed copies of this checklist will be included in the Project Turnover Review Report for each review performed.

Project Turnover Review is for: Partial project transfer x **Final project transfer** ☐

Item	Description	Complete Yes	Complete No
1	The committee will provide a brief description of the scope of facilities and/or systems being reviewed for turnover (from Appendix B checklist): ▪ *The scope of project facilities and systems consists of that listed in the post-construction system walkdown participation matrix.*	☑	
2	The committee will confirm that physical walk-downs of the facilities and/or systems being transferred have taken place. The following activities will be performed as a minimum: a) Physical walk-down of facilities and/or systems being transferred – *Completed. See PDSRs contained in the turnover binders.*	☑	
	b) Review applicable safety documentation, including the Hazards Assessment Document, Health and Safety Plan – *Completed.*	☑	
	c) Confirm that calibration requirements, if any, have been identified and implemented – *Completed. See documentation provided in the turnover binders.*	☑	
	d) Confirm that testing has been satisfactorily completed, including vendor, construction completion, system operability, and integrated testing, as applicable. – *Completed. See documentation provided in the turnover binders.*	☑	
	e) Verify that facility construction, documentation, and applicable activities have been completed in accordance with approved project documents and design drawings – *Completed. See documentation provided in the turnover binders.*	☑	
	f) ~~Confirm that all spare parts and equipment are identified and labeled (final project transfer only)~~ – *Not applicable at the partial turnover phase.*		

	g) Confirm that Essential and Master Facility Drawings have been identified and as-built in accordance with MCP-2377 – *Completed, as confirmed by the Project Engineer.*	☑	
	h) Confirm that any other essential documents required for ongoing management, operations, and maintenance of the facility, equipment, and/or systems have been identified, updated, and revised to reflect approved field changes – *Completed, as confirmed by the Project Engineer and System Engineering Representative.*	☑	
	i) ~~Ensure that Form 431.37, "Engineering Change Form," has been completed and closed out in accordance with MCP-2811 (may remain open for partial turnovers)~~ – *Not applicable at the partial turnover phase.*		
	j) Arrange for all required equipment to be identified and entered into the project master equipment list in accordance with MCP-2795 – *Completed, as confirmed by the System Engineering Representative.*	☑	
	k) Ensure that appropriate arrangements, if applicable, have been taken for disposal and/or transfer of accountable property – *Not applicable at the partial turnover phase.*		
	l) Verify that appropriate operating and maintenance procedures are in place for equipment and systems being turned over to Operations – *Complete, as confirmed by the Facility Management Representative.**	☑	
	m) Verify that appropriate operating and maintenance personnel training requirements have been established, including system configuration for Operations personnel, as appropriate -- *Complete, as confirmed by the Facility Management Representative**	☑	
	n) Verify that appropriate operating and maintenance personnel have been trained as necessary to accept turnover facility -- *Complete, as confirmed by the Facility Management Representative**	☑	
	o) Confirm that any temporary facilities have been removed or that arrangements have been made to upgrade them to permanent status (may remain open for partial turnover) – *Not applicable, as confirmed by the Construction Management Representative*		
	p) Document temporary facility status, disposition plans, and organizational responsibility – *Not applicable, as confirmed by the Facility Management Representative*		
	q) Ensure the System Engineer has updated the shift supervisor on configuration and operational changes being implemented at the facility – *Complete, as confirmed by the System Engineer Representative*	☑	

	r) Confirm that the construction fencing has been realigned to allow personnel to enter the facility from the RWMC Admin area and not through the construction fence. – *Not applicable, as it has been agreed with Construction Management that the separate construction access will be maintained until completion of SO and integrated testing.* s) Other items as identified by the committee (attach list) -- *None*		
3	The committee will document all deficiencies identified during Project Turnover Review on the project deficiency status report, noting particularly those deficiencies that are safety related – *These deficiencies have been noted on the Project Deficiency Status Reports, as noted during the walkdowns, or as determined via other means.*	☑	
4	The committee will recommend and obtain agreement from both the project manager and the facility operations manager of deficiencies that require resolution prior to project transfer versus deficiencies that may be resolved post-transfer – *Completed.*	☑	
5	The committee will document the results of their project turnover review by written report and completed checklists, as appropriate – *This report will be completed and issued following partial facility turnover.*		
6	For final project turnover review, the committee will walk-down the completed facilities and systems to ensure that all required items identified on the list of "Facility Acceptance" items have been completed and are in place for Operations to accept custody of the facility. – *Not applicable at partial turnover.*		

7	Upon completion of project turnover review, the committee has determined that the facilities and/or systems reviewed are in an acceptable state of readiness to proceed safely with project transfer from the Project organization to the Operations organization. Upon resolution of identified deficiencies, the Project organization has completed the required scope of work and the Operations organization is ready to assume custody of these facilities and/or systems for beneficial use. Mike Pratt, Project Manager — May 5, 2003 Date Mike Dicken, Facility Management Representative ** — 5-13-03 Date Dennis Conley, System Engineering Representative — 5/5/03 Date Steve Davies, Project Engineer — 5/05/03 Date Dave Behrens, Construction Management Representative — 5/05/03 Date J. Stone, Quality Assurance Representative — 5/05/03 Date Randy Sayer, ES&H Representative — 5/5/03 Date Blake Burt, Testing Representative — 5/05/03 Date Jim Barker, Operations Representative — 5/5/03 Date		
8	~~For final Project Turnover Review, the committee will prepare the Project Turnover Review Report, including documentation from all Project Turnover Reviews~~ — *Not applicable at the partial turnover phase.*		
9	The committee will approve, issue, and distribute the Project Turnover Review Report -- *This report will be completed and issued following partial facility turnover.*		

** SEE ATTACHED E-MAIL T.M. DICKEN TO DISTRIBUTION, WMF-671 STATUS, 5/12/03 07:15 PM AND OU7-10 ISEM CONSTRUCTION TURNOVER CONFIGURATION STATUS DATED 5/13/03.

* Complete to the extent necessary to support SO and Integrated Testing. Additional procedure finalization, training to support operational readiness will follow.

PLN-1159 Completed Appendix C. Rev. 2

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Thomas M Dicken

05/12/2003 07:15 PM

To: OU7-10 Ops Staff, OU7-10 Ops System Engineers, OU7-10 Ops. Foremen, RWMC SS, RWMC Records/Proc./Tech. Ed, OU7-10 ES&H Support, RWMC Training
cc: RWMC Staff, RWMC DOE
Fax to:
Subject: WMF-671 Status

As the OU7-10 Operations and Nuclear Facility Manager I have signed limited acceptance of the WMF-671 facility for Partial Turnover to conduct SO and Integrated Testing (effective 0730 hours, Tuesday, May 13) as noted below:

- Except for work within gloveboxes #1, 2 or 3, all work control and approval shall be authorized via the RWMC and GEM Project Approved Plan of the Week/Plan of the Day. Performance of FMM SO Testing is considered separate from work within the respective glovebox and will thus be controlled by Operations.
- Ownership/responsibility for gloveboxes #1, 2 and 3 shall remain with Construction until completion of cracked window replacement and satisfactory leak testing, as applicable. Thereafter, ownership/responsibility of each glovebox will be transferred to me.
    - Work within gloveboxes #1, 2 or 3, including cracked window replacement and satisfactory leak testing, shall be authorized by Construction and performed under the respective PWO.

Attached is the Construction Turnover Configuration Status as of 1733 hours today. The status of systems needs to be recorded in the respective OOS, Equipment Status, and Temporary Equipment Status logs and on status boards.

Through approximately 1600 hours Thursday, May 15, access to WMF-671 will continue to be via the Construction Trailer using the Construction entrance, Guard Shack and the green Construction badges. Likewise, the emergency notification means using the Construction air horn will remain in effect through this same period. Thereafter, access will be via the gate adjacent to the SDA entrance. In addition, it will be necessary that a Supervisor or designee be present in WMF-671 and that person have an RWMC radio in their possession, since there are no speakers inside the facility, whenever work is being performed. The RWMC SS will thus be required to transmit radio messages to WMF-671 as they currently do to the SDA.

Until system and component alignment of the fire protection systems, including independent verification, has been completed, a qualified Fire Watch will be stationed in WMF-671.

OU 7-10 GEM, Turnover Config Mgmt Lis

T.M. (Mike) Dicken
Pit-9 GEM Operations Manager/Nuclear Facility Manager
Office 526-1085 Cell 520-1237 Pager 5076 Home 523-6530

Construction Turnover Configuration Status

#	System or Equipment	Turnover Status	Location	Responsible Party
1	**Excavator**			
1.01	Excavator (46.4 hours on meter)	Installed and ready for operation (Cab is locked)	WMF-671	Scott Smith
1.02	Fuel Tank (filled to between 1/4 & 1/2)	Tank will need to be filled by Ops.	on Excavator	Scott Smith
1.03	Nitrogen Cartridge for Fire System	Cartridge has been removed, needs to be installed by Ops prior to start of operations	In Excavator	Jim Call/Scott Smith
1.04	Spare Hydraulic Fluid	Stored in RWMC Warehouse	WMF-655	Scott Smith
1.05	Hydraulic Oil Test Kit	Stored in RWMC Warehouse	WMF-655	Scott Smith
1.06	Tires Removed From Excavator	Stored in Conex located at Construction Trailer area	CM Trailer Row	Scott Smith
1.07	Outriggers removed from Excavator	Stored in Conex located at Construction Trailer area	CM Trailer Row	Scott Smith
1.08	Front Rams removed from Excavator	Stored in Conex located at Construction Trailer area	CM Trailer Row	Scott Smith
1.09	Glass Removed From Cab	Stored in Conex located at Construction Trailer area	CM Trailer Row	Scott Smith
	End Effectors:			
1.10	16" Bucket	Staged in WMF-671	WMF-671	Scott Smith
1.11	24" Bucket	Staged in WMF-671	WMF-671	Scott Smith
1.12	Hydraulic Hammer	Installed on Backhoe in WES	WMF-671	Scott Smith
1.13	Jaw Bucket	Staged in WMF-671	WMF-671	Scott Smith
2	**Fire Protection (Water) Systems**			
2.01	Fire Piping	All valves in WMF-750 are closed	WMF-671	Jim Call
2.02	WES Sprinkler Piping	Everything in ready status	WMF-671	Jim Call
2.03	RCS Sprinkler Piping	Everything in ready status	WMF-671	Jim Call
2.04	RCS Deluge Piping	Everything in ready status	WMF-671	Jim Call
2.05	PGS Sprinkler Piping	Everything in ready status	WMF-671	Jim Call
2.06	Diesel Fire Pump (5 hrs on meter)	Set to off	WMF-671	Jim Call
2.07	Fuel Tank (7/8 full by gauge)	Tank will need to be filled by Ops.	WMF-671	Jim Call
2.08	PGS Water Mist Storage Tank	Water Level @ 7' of 12' capacity	WMF-671	Jim Call
3	**Breathing Air System**			
3.01	Breathing Air Trailer (gauge shows 100psi)	In Standby	West of WMF-671	Eugene Keating
4	**Plant Air System:**			
4.01	Plant Air System (gauge shows 60psi)	In Standby	West of WMF-671	Eugene Keating
5	**Heating (H&V)**			
5.01	PLC	Turned Off at turnover	WMF-671	Eugene Keating
5.02	HMI Panel	Turned Off at turnover	WMF-671	Eugene Keating
6	**Fire Alarm System:**			
6.01	Fire Alarm System	Connected and reporting to CFA	WMF-671	Brent Laird
7	**Electrical & Power**			
7.01	Panels	All Panels Energized. All Breakers in "on" position except for spares	WMF-671	Eugene Keating
7.02	Radiant Heaters	All Heaters Set At Lowest Setting	WMF-671	Eugene Keating
8	**Structure - Floor (FFS)**	All Construction Punch List Items Complete		
9	**CCTV**			
9.01	Spare Camera	Turned over to Charlie Griffin	WMF-637	Charlie Griffin
9.02	Spare Monitor	Turned over to Charlie Griffin	WMF-637	Charlie Griffin
10	**Dust Suppression System**			
10.01	Water Tank	Ops to fill tank with water	WMF-671	Eugene Keating
10.02	Remote Controllers	Turned over to System Engineer	WMF-635	Eugene Keating
11	**Structure - RCS**	All Construction Punch List Items Complete		
12	**Structure - WES**			
12.01	Fire Extinguishers	Installed, Ops needs to Bar Code	WMF-671	Jim Call
12.02	Pallet Jacks (2)	Stored in WES (needs to be load tested)	WMF-671	Mike Dicken
12.03	Operator Manual / Oper. Instruct./	Turn over to System Engineer	WMF-637	Dennis Conley
	Spare Parts Catalog		WMF-637	Dennis Conley
12.04	Gas Bottle Racks	Installed, Ready For use	WMF-671	Eugene Keating
12.05	Smear Counting Box	Will be turned over to System Engineer Scheduled to be delivered 5/13/03	At Fabricator	Eugene Keating
13	**Diesel Generator / ATS**			
13.01	Fire Extinguisher (2-mounted on unit)	Installed, Ops needs to Bar Code	On Trailer	Jim Call
13.02	Fuel Tank (gauge shows full)	Needs to be filled by Ops.	On Trailer	Eugene Keating
13.03	Generator (meter shows 15 hrs)	In Manual Mode, Will not start unless set to auto	WMF-671	Mark Owen/Keating
13.04	ATS	In Manual Mode, Will not start unless set to auto	West of WMF-671	Mark Owen/Keating

Turnover Summary Status

Construction Turnover Configuration Status

#	System or Equipment	Turnover Status	Location	Responsible Party
14	**Painting**	All Punch List Items Complete		
15	**CO Detection**			
15.01	CO Detection System	System on, Impairment to be placed by Jim Call	WMF-671	Eugene Keating
16	**Monitoring and Controls**	Turnover Status Listed by System		
17	**PGS's**			
17.01	Gloves	Not Installed (Ops needs to install)	WMF-671	Paul Pinson
17.02	Hoists	Ready for use, load tested and tagged	WMF-671	Paul Pinson
17.03	Windows	Need to be Re-installed	IN Transit	Paul Pinson
18	**Drum Loadout Enclosures**			
18.01	Filters	Five filters need to be replaced (Delivery 5/13/03)	ON ORDER	Charlie Griffin
18.02	Drum Lift Tables	All installed (Warranty issue with 1 on PGS #3)	WMF-671	Charlie Griffin
18.03	Tents	Complete and tested	WMF-671	Charlie Griffin
19	**Emissions Monitoring**			
19.01	Emissions Monitoring System	In Standby	WMF-671	Charlie Griffin
19.02	Ashcroft Hand Held Calibrator	Turned over to Charlie Griffin	WMF-637	Charlie Griffin
20	**Criticality Alarm System (CAS)**			
20.01	Criticality Alarm System	In Standby	WMF-671	Charlie Griffin
21	**Fissile Monitoring (FMM)**			
21.01	Fissile Monitoring System	In Standby	WMF-671	Paul Pinson
22	**Drum Assay (NDA Facility)**			
22.01	Drum Assay Facility	Bldg. Leveled / Lights, Fixtures & HVAC all work	West of WMF-671	Scott Roesener
22.02	Security Locks and keys	Turned over to Scott Roesener (one set)	WMF-637	Scott Roesener
23	**Misc. Items**			
	I - RCS Equipment Stands and Items			
23.01	Overburden Cartridge	Staged West of WMF-671	West of WMF-671	Scott Smith
23.02	Hydraulic Hammer Support	Staged in WMF-671	WMF-671	Scott Smith
23.03	Drum Sizing Tray	Staged West of WMF-671	West of WMF-671	Scott Smith
23.04	Drum Puncture Tool Stand	Staged West of WMF-671	West of WMF-671	Scott Smith
23.05	Jaw Bucket Stand	Staged in WMF-671	WMF-671	Scott Smith
23.06	16" Bucket Stand	Staged in WMF-671	WMF-671	Scott Smith
23.07	24" Bucket Stand	Staged in WMF-671	WMF-671	Scott Smith
23.08	Tool Table	Installed	WMF-671	Scott Smith
23.09	Tools For Tool Table	Turned over to System Engineer	WMF-671	Scott Smith
23.10	Drum Puncture Tool	Turned over to System Engineer	West of WMF-671	Scott Smith
23.11	Excavator Hose Mtc. Platform	Staged West of WMF-671	WMF-671	Scott Smith
	II - Other Misc Items			
23.12	TS Fall Arrestor	Turned over to Scott Smith	WMF-637	Scott Smith
23.13	Body Harness For Fall Arrestor	Turned over to Scott Smith	WMF-637	Scott Smith
23.14	Lockers	Installed	WMF-671	Scott Smith
23.15	Probe Puller Caps	Staged West of WMF-671	West of WMF-671	Scott Smith
	III - Keys			
23.16	Keys to Excavator	Turned over to Mike Dicken	WMF-635	Mike Dicken
23.17	Keys to Electrical Panels	Turned over to Mike Dicken	WMF-635	Mike Dicken
23.18	Keys to ATS Switch	Turned over to Mike Dicken	WMF-635	Mike Dicken
23.19	Keys to Diesel Fire Pump	Turned over to Mike Dicken	WMF-635	Mike Dicken
23.20	Keys to WES exterior doors	Security Turned over to Mike Dicken	WMF-635	Mike Dicken
23.21	Keys to Diesel Generator	Turned over to Mike Dicken	WMF-635	Mike Dicken

Turnover Summary Status

Appendix D

Completed Appendix C to PLN-I159 (Final Project Transfer)

Appendix D

Completed Appendix C to PLN-1159 (Final Project Transfer)

Completed Appendix C

Project Turnover Review Checklist

The checklist provided below will be used to assist the Project Turnover Review Committee in documenting all activities performed during Project Turnover Review. Additional items may be added to the checklist, and changes made as necessary to support an efficient effort. This checklist contains specific items, as well as additional items added by the committee, to be completed during final Project Turnover Review. Completed copies of this checklist will be included in the Project Turnover Review Report for each review performed.

Project Turnover Review is for: Partial project transfer ☐ Final project transfer [x]

Item	Description	Complete	
		Yes	No
1	The committee will provide a brief description of the scope of facilities and/or systems being reviewed for turnover (from Appendix B checklist): ▪ *The scope of project facilities and systems consists of that listed in the post-construction system walkdown participation matrix, and in the Inspection and Project Transfer Form, 432.04.*	☑	
2	The committee will confirm that physical walk-downs of the facilities and/or systems being transferred have taken place. The following activities will be performed as a minimum: a) Physical walk-down of facilities and/or systems being transferred – *Completed prior to Partial Turnover. See PDSRs and other walkdown-related documentation contained in INEEL/EXT-03-00622, Project Turnover Documentation Package.* b) Review applicable safety documentation, including the Hazards Assessment Document, Health and Safety Plan – *To be completed following turnover; a revision to the Health and Safety Plan is currently in the signature phase.* c) Confirm that calibration requirements, if any, have been identified and implemented – *Completed. See documentation provided in INEEL/EXT-03-00622, Project Turnover Documentation Package* d) Confirm that testing has been satisfactorily completed, including vendor, construction completion, system operability, and integrated testing, as applicable. – *Construction component testing was completed prior to partial turnover. System operability and integrated testing was completed following partial turnover. See documentation provided in INEEL/EXT-03-00622, Project Turnover Documentation Package* e) Verify that facility construction, documentation, and applicable	☑	

	activities have been completed in accordance with approved project documents and design drawings – *Not applicable. Completed prior to partial turnover.* f) Confirm that all spare parts and equipment are identified and labeled (final project transfer only) – *Completed.* g) Confirm that Essential and Master Facility Drawings have been identified and as-built in accordance with MCP-2377 – *Completed, as confirmed by Operations Engineering and the Project Engineer.* h) Confirm that any other essential documents required for ongoing management, operations, and maintenance of the facility, equipment, and/or systems have been identified, updated, and revised to reflect approved field changes – *Completed, as confirmed by Operations Engineering and the Project Engineer.* i) Ensure that Form 431.37, "Engineering Change Form," has been completed and closed out in accordance with MCP-2811 (may remain open for partial turnovers) – *Not required to be completed at turnover, but within 60 days following turnover, in accordance with MCP-2811, Section 4.12.1.* j) Arrange for all required equipment to be identified and entered into the project master equipment list in accordance with MCP-2795 – *Completed, as confirmed by Operations Engineering..* k) Ensure that appropriate arrangements, if applicable, have been taken for disposal and/or transfer of accountable property – *To be completed with distribution of the project form 432.04, following turnover.* l) Verify that appropriate operating and maintenance procedures are in place for equipment and systems being turned over to Operations – *Complete as necessary to support turnover, as confirmed by the Facility Management Representative.* m) Verify that appropriate operating and maintenance personnel training requirements have been established, including system configuration for Operations personnel, as appropriate -- *Complete, as confirmed by the Facility Management Representative.* n) Verify that appropriate operating and maintenance personnel have been trained as necessary to accept facility turnover – *Complete as necessary to support turnover, as confirmed by the Facility Management Representative.* o) Confirm that any temporary facilities have been removed or that arrangements have been made to upgrade them to permanent status (may remain open for partial turnover) – *Completed, as confirmed by the Facility Management Representative and by the Testing Representative.* p) Document temporary facility status, disposition plans, and organizational responsibility – *Not applicable, as confirmed by the Facility Management Representative.*		

	q) Ensure the System Engineer has updated the shift supervisor on configuration and operational changes being implemented at the facility – *Not applicable, as advised by the System Engineer Representative* r) Confirm that the construction fencing has been realigned to allow personnel to enter the facility from the RWMC Admin area and not through the construction fence. – *Completed, as confirmed by the Construction representative.* s) Other items as identified by the committee (attach list) -- *None*		
3	The committee will document all deficiencies identified during Project Turnover Review on the project deficiency status report, noting particularly those deficiencies that are safety related – *These deficiencies have been noted on the Project Deficiency Status Reports, as observed during the walkdowns, or as determined via other means. Documentation of deficiencies is contained in INEEL/EXT-03-00622, Project Turnover Documentation Package.*	☑	
4	The committee will recommend and obtain agreement from both the project manager and the facility operations manager of deficiencies that require resolution prior to project transfer versus deficiencies that may be resolved post-transfer – *Completed.*	☑	
5	The committee will document the results of their project turnover review by written report and completed checklists, as appropriate – *This report will be completed and issued following final facility turnover. A draft of the report has been used to support PTRC decision for final turnover. The report is INEEL/EXT-03-00622, Project Turnover Documentation Package.*	☑	
6	For final project turnover review, the committee will walk-down the completed facilities and systems to ensure that all required items identified on the list of "Facility Acceptance" items have been completed and are in place for Operations to accept custody of the facility. – *Completed, through walkdowns performed prior to partial turnover; as determined by the PTRC, additional walkdowns are not required.*	☑	

7	Upon completion of project turnover review, the committee has determined that the facilities and/or systems reviewed are in an acceptable state of readiness to proceed safely with project transfer from the Project organization to the Operations organization. Upon resolution of identified deficiencies, the Project organization has completed the required scope of work and the Operations organization is ready to assume custody of these facilities and/or systems for beneficial use. Mike Pratt, Project Manager — Date 9/24/03 Mike Dicken, Facility Management Representative — Date 7/28/03 Dennis Conley, System Engineering Representative — Date 7/24/03 Steve Davies, Project Engineer — Date 7/24/03 Dave Behrens, Construction Management Representative — Date 7/24/03 J. Stone, Quality Assurance Representative — Date 7/24/03 for JStone Randy Sayer, ES&H Representative — Date 7/25/03 Blake Burt, Testing Representative — Date 7/24/03 Jim Barker, Operations Representative — Date 7-24-03	☑	
8	For final Project Turnover Review, the committee will prepare the Project Turnover Review Report, including documentation from all Project Turnover Reviews – *This information will be provided in INEEL/EXT-03-00622, Project Turnover Documentation Package.*	☑	
9	The committee will approve, issue, and distribute the Project Turnover Review Report -- *This report will be completed and issued following final turnover. The report is INEEL/EXT-03-00622, Project Turnover Documentation Package.*	☑	

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Appendix E
Project List of Technical and Functional Requirements and System Design Criteria

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Project List of Technical and Functional Requirements and System Design Criteria

Glovebox Excavator Method Project TFRs and SDCs:

- TFR-2527, OU 7-10 Glovebox Excavator Method Technical and Functional Requirements, Revision 3, September 19, 2002.
- TFR-152, System Design Criteria for the OU 7-10 Glovebox Excavator Method Project: Packaging Design Criteria, Revision 3, April 28, 2003.
- TFR-153, System Design Criteria for the OU 7-10 Glovebox Excavator Method Project: Excavation Design Criteria, Revision 3, April 28, 2003.
- TFR-154, System Design Criteria for the OU 7-10 Glovebox Excavator Method Project: General Structures and Site Design Criteria, Revision 3, January 30, 2003.
- TFR-155, System Design Criteria for the OU 7-10 Glovebox Excavator Method Project: Instrumentation and Control Design Criteria, Revision 2, October 11, 2002.
- TFR-156, System Design Criteria for the OU 7-10 Glovebox Excavator Method Project: Facilities and Infrastructure Design Criteria, Revision 1, October 11, 2002.
- TFR-157, System Design Criteria for the OU 7-10 Glovebox Excavator Method Project: Fire Protection Design Criteria, Revision 2, October 11, 2002.
- TFR-158, System Design Criteria for the OU 7-10 Glovebox Excavator Method Project: Process Design Criteria, Revision 3, April 28, 2003.

Appendix F

Project Post-Construction System Walkdown Participation Matrix

Appendix F

Project Post-Construction System Walkdown Participation Matrix

System	Safety Cat CG	SS	LSC	Quality Assurance	ty. Indust. Hygiene	Design Engineer	Test Engineer	System Engineer	Operations	Subject Matter Experts
Fire Protection										
Water Mist	X			C. Reay	K. Wooley, B. Perkes	J. Jensen or L. Guillen	B. Burt	E. Keating	J. Barker	K. Wheeler, J. Call, E. Gosswiller, R. Home
RCS Dry Pipe	X			C. Reay	K. Wooley, B. Perkes	J. Jensen or L. Guillen	B. Burt	E. Keating	J. Barker	K. Wheeler, J. Call, E. Gosswiller
WES Dry Pipe	X			C. Reay	K. Wooley, B. Perkes	J. Jensen or L. Guillen	B. Burt	E. Keating	J. Barker	K. Wheeler, J. Call, E. Gosswiller
Manual Deluge	X			C. Reav	K. Woolev. B. Perkes	J. Jensen or L. Guillen	B. Burt	E. Keatine	J. Barker	K. Wheeler, J. Call, E. Gosswiller
Stationarv Fire Pump	X			C. Reav	K. Woolev. B. Perkes	J. Jensen or L. Guillen	B. Burt	E. Keatine	J. Barker	K. Wheeler, J. Call, E. Gosswiller
Fire Alarm Svstem	X			D. Johnson	K. Woolev. B. Perkes	J. Jensen or L. Guillen	M. Owens	E. Keatine	J. Barker	K. Wheeler, J. Call, E. Gosswiller
Mechanical										
Plant Air	X			C. Reay		L. Guillen	J. Jefimoff	E. Keating	J. Barker	R. Horne
Breathing Air	X			C. Reay	K. Wooley, B. Perkes	L. Guillen	J. Jefimoff	E. Keating	J. Barker	R. Horne
Dust Suppression System	X			C. Reay	K. Wooley, B. Perkes	L. Guillen	J. Jefimoff	E. Keating	J. Barker	R. Horne
Heating and Vent. (CG portions)	X			C. Reay	K. Wooley, B. Perkes	M. Pope	J. Jefimoff	E. Keating	J. Barker	R. Horne
Heating and Vent. (SS, LSC portions)		X	X	C. Reay	K. Wooley, B. Perkes	M. Pope	J. Jefimoff	E. Keating	J. Barker	R. Horne
Excavator System (CG portions)	X			D. Johnson	K. Wooley, B. Perkes	B. Grover	J. Jefimoff	S. Smith	J. Barker	R. Horne
Excavator System (SS portions)		X		C. Reay	K. Wooley, B. Perkes	B. Grover	J. Jefimoff	S. Smith	J. Barker	R. Horne
PGS		X		C. Reay	K. Wooley, B. Perkes	R. Carpenedo	J. Jefimoff	P. Pinson	J. Barker	R. Horne
Drum Loadout Enclosures	X			D. Johnson	K. Wooley, B. Perkes	B. Preussner	J. Jefimoff	P. Pinson	J. Barker	R. Horne
ELECTRICAL/I&C										
Power, Switches, Light, Heat	X			D. Johnson	K. Wooley, B. Perkes	J. Duggan	M. Owens	E. Keating	J. Barker	
CCTV	X			D. Johnson	K. Wooley, B. Perkes	B. Johnson	M. Owens	C. Griffin	J. Barker	
Emissions Monitoring	X			D. Johnson	K. Wooley, B. Perkes	B. Johnson	M. Owens	C. Griffin	J. Barker	P. Ritter, R. Horne

GEM PROJECT POST-CONSTRUCTION SYSTEM WALKDOWN PARTICIPATION MATRIX										
System	Safety Cat			Quality Assurance	Safety, Indust. Hygiene	Design Engineer	Test Engineer	System Engineer	Operations	Subject Matter Experts
	CG	SS	LSC							
CAS		X		M. Redden	K. Wooley, B. Perkes	T. Hipp	M. Owens	C. Griffin	J. Barker	S. Holaday
CO Detection	X			D. Johnson	K. Wooley, B. Perkes	J. Jensen or L. Guillen	M. Owens	E. Keating	J. Barker	E. Gosswiller
Monitoring & Controls	X			D. Johnson	K. Wooley, B. Perkes	G. Preslar	M. Owens	E. Keating	J. Barker	
Fissile Material Monitoring	X			D. Johnson	K. Wooley, B. Perkes	D. Akers/D. Scates	M. Owens	P. Pinson	J. Barker	
Drum Assay	X			B. Chesnovar	K. Wooley, B. Perkes	S. Roesener	S. Roesener	S. Roesener	J. Barker	
PAINTING AND FACILITY										
Painting and Facility Labelling	X			D. Johnson	K. Wooley, B. Perkes	L Guillen	NA	E. Keating	J. Barker	
Weather Enclosure			X	C. Reay	K. Wooley, B. Perkes	S. Jensen	NA	E. Keating	J. Barker	
Floor Structure		X		C. Reay	K. Wooley, B. Perkes	S. Jensen	NA	E. Keating	J. Barker	
Retrieval Confinement Structure		X		C. Reay	K. Wooley, B. Perkes	S. Jensen	NA	E. Keating	J. Barker	